ABSTRACT OF THE DISCLOSURE

An image recognition apparatus operates on data of a color image to obtain an edge image expressing the shapes of objects appearing in the color image, the apparatus including a section for expressing the color attributes of each pixel of the image as a color vector, in the form of a set of coordinates of an orthogonal color space, a section for applying predetermined arrays of numeric values as edge templates to derive for each pixel a number of edge vectors each corresponding to a specific edge direction, with each edge vector obtained as the difference between weighted vector sums of respective sets of color vectors of two sets of pixels which are disposed symmetrically opposing with respect to the corresponding edge direction, and a section for obtaining the maximum modulus of these edge vectors as a value of edge strength for the pixel which is being processed. By comparing the edge strength of a pixel with those of immediately adjacent pixels and with a predetermined threshold value, a decision can be reliably made for each pixel as to whether it is actually located on an edge and, if so, the direction of that edge.